Natural Development Server Installation under SMARTS on VSE/ESA

This document describes how to install a Natural Development Server (product code: NDV) under the runtime environment SMARTS.

The following topics are covered:

- Prerequisites
- Content of the Development Server Distribution Tape
- Installation Procedure

Prerequisites

- SMARTS Version 2.6.2 or above must be installed (product code APS).
- The current Natural version for Mainframes must be installed.
- If you are using Predict and you have to migrate to a Predict version as specified under Natural and Other Software AG Products in the current Natural Release Notes, you are strongly recommended to migrate to the newer Predict version **before** you install the Natural Development Server.
- List XRef Version 1.1.1
  (List XRef is an internal product with product code PXR and is included in the delivery for the Natural Development Server)
- The Software AG Editor must be installed. You are recommended to set the size of the editor buffer pool to 1024 KB.
  If you are using SMA, the necessary modules are linked when the SMA parameter SAG-EDITOR is set. If you are installing without SMA, see the Natural Installation Guide for Mainframes, Installing the Software AG Editor.

If you do not migrate to a Predict version as specified under Natural and Other Software AG Products in the current Natural Release Notes **before** starting the Natural Development Server installation, you will have to define a new Natural system file (FNAT) and a new development server file (FDIC). The current Natural version for Mainframes and the desired additional products must have been loaded on the Natural system file FNAT before you start the installation of the Natural Development Server.

The prerequisites required for the operation of a Remote Development Client must be fulfilled in addition. For details, refer to Remote Development in the Natural for Windows Version 5.1 documentation.

Content of the Development Server Distribution Tape

The installation tape contains the datasets listed in the table below. The sequence of the datasets and the number of library blocks needed are shown in the **Report of Tape Creation** which accompanies the installation tape.

Dataset Name	Contents
APSnnn.LIBR	Contains the load modules of the SMARTS Server.
NDV*nnn*.LIBR	Contains the load modules of the development server. See Natural Development Server on Mainframes.
NDV*nnn*.LIBJ	Contains Installation Job Control for customers who install without using System Maintenance Aid.
NDV*nnn*.INPL	Contains the transaction processor. See Natural Development Server on Mainframes.
NDV*nnn*.ERRN	Contains the error messages of the transaction processor.
NDV*nnn*.SYSF	Contains the FDT of the Development Server File (the layout is identical with PRD*nnn*.SYSF provided with a Predict version as specified under Natural and Other Software AG Products in the current Natural Release Notes).
NAT31601.LIBR	NDV requires the module NATGWSTG in the Natural load library. Since this module has not been delivered with Natural Version 3.1.6 for Mainframes, this correction library containing this module was provided. Future system maintenance (SM) levels and versions of Natural will already include the module NATGWSTG.

The notation *nnn* in dataset names represents the version number of the product.

Installation Procedure

To install the Natural Development Server in the SMARTS environment, perform the following steps:

Copying the Tape Contents to Disk

If you are using System Maintenance Aid (SMA), refer to the SMA documentation (included on the current edition of the Natural documentation CD).

If you are **not** using SMA, follow the instructions below.

This section explains how to:

- Copy data set COPYTAPE.JOB from tape to library.
- Modify this member to conform with your local naming conventions.

The JCL in this member is then used to copy all data sets from tape to disk.

If the datasets for more than one product are delivered on the tape, the member COPYTAPE.JOB contains the JCL to unload the datasets for all delivered products from the tape to your disk, except the datasets that you can directly install from tape, for example, Natural INPL objects.

After that, you will have to perform the individual install procedure for each component.

Step 1 - Copy data set COPYTAPE.JOB from tape to disk

The data set COPYTAPE.JOB (file 5) contains the JCL to unload all other existing data sets from tape to disk. To unload COPYTAPE.JOB, use the following sample JCL:


```
* $$ JOB JNM=LIBRCAT,CLASS=0,                                          +
* $$ DISP=D,LDEST=(*,UID),SYSID=1
* $$ LST CLASS=A,DISP=D
// JOB LIBRCAT
* ***************************************
*     CATALOG COPYTAPE.JOB TO LIBRARY
* ***************************************
// ASSGN SYS004,NNN                              <------  tape address
// MTC REW,SYS004
// MTC FSF,SYS004,4
ASSGN SYSIPT,SYS004
// TLBL IJSYSIN,'COPYTAPE.JOB'
// EXEC LIBR,PARM='MSHP; ACC S=library.sublibrary' <----- Library/Sublibrary for Catalog
/*
ASSGN SYSIPT,FEC
/*
/&
* $$ EOJ
```

Where:

<hilev> is a valid high level qualifier

Step 2 - Modify COPYTAPE.JOB to conform with your local naming conventions

and complete the disk space parameters before you can submit this job:

Step 3 - Submit COPYTAPE.JOB

Submit COPYTAPE.JOB to unload all other data sets from the tape to your disk.

Step 4: Apply the following corrections before you start to install NDV

1. If you have Predict Version 4.2.1 installed, apply the PRD421 Summary IUPD Update (PD421In) to your Natural system file (FNAT).
2. If you have PXR 1.1.1 installed, apply the PXR Summary IUPD Update (PX111In) to your Natural system file (FNAT).

Step 5: Create a development server configuration file

(Job I009 / Step 8410)

Catalogs the configuration file of the development server. For a description of the parameters, refer to Development Server Configuration.

The following parameters of the configuration file have to be defined. For the other parameters, the default values may be used:

FRONTEND_NAME	Specify the name of the NDV server front end module you generate in Step 13 .
PORT_NUMBER	Specify the TCP/IP port number under which the server can be connected.

Step 6: Create a SMARTS Sysparms file

(Job I009, Step 8420)

Catalogs the member SYSPARMS for the SMARTS configuration file.

For detailed information on the SMARTS configuration file, refer to the SMARTS documentation Configuration of the SMARTS Environment.

Step 7: Load FDIC system file

(Job I050, Step 8403)

If you do not use Predict at all or if you have not yet migrated to a Predict version as specified under Natural and Other Software AG Products in the current Natural Release Notes, create the development server file, using the dataset NDV*nnn*.SYSF.

The layout of the Development Server File corresponds to the layout of the Predict Version 4.2 or above dictionary file.

Note: If you have a Predict version installed as specified under Natural and Other Software AG Products in the current Natural Release Notes, you can ignore this step.

Step 8: Assemble and link ADALNK

(Job I055, Step 8401)

The server environment requires a reentrant ADALNK module.

Link ADALNK using the ADALNKR module.

Step 9: Assemble and catalog for the Natural NDV interface

(Job I055, Step 8410)

- Job I055, Step 8410, assemble and catalog the NCFPARM module.

Step 10: Link the Natural nucleus

(Job I060, Step 0105)

- Job I060, Step 0105, link the Natural Nucleus with the module NATGWSTG.

Step 11: Load Natural objects, error messages and samples for NDV

(Job I061, Steps 8450,8451,8452)

During NDV INPL, the assigned FDIC/FSEC file is initialized with NDV-specific information.

- Load objects from dataset NDV*nnn*.INPL onto your Natural system file (FNAT), using the INPL command. The parameter FDIC must have been set to point to your development server file.
- Load the error messages from dataset NDV*nnn*.ERRN using ERRLODUS.
- To use the tutorial (see First Steps with Natural Single Point of Development), load the sample programs from dataset NDV*nnn*.EXPL to your Natural system file.

Step 12: Load Natural objects for Predict XREF

(Job I061, Step 0601)

If you do not have PXR Version 1.1.1 installed yet, perform this step.

Load PXR*nnn*.INPL.

Note: If you are using Predict, but do not have a Predict version installed as specified under Natural and Other Software AG Products in the current Natural Release Notes and you intend to use existing XRef data, you have to recatalog the applications which will use the development server file.

Step 13 - Create the NDV server front-end module

(Job I080, Steps 8410, 8420, 8430, 8440, 8450, 8460, 8470)

- Job I080, Step 8410, assemble and catalog the NDV NATPARM module.
- Job I080, Step 8420 link the NDV frontend.
- Job I080, Step 8430 link the NDV server.
- Job I080, Step 8440 link the NDV NATMONI module.
- Job I080, Step 8450 link the NDV NATMOPI module.
- Job I080, Step 8460 link the NDV NATSOCK module.
- Job I080, Step 8470 link the Natural Buffer Pool for NDV.

Step 14: Copy DDMs and processing rules to FDIC

If you use a Predict Version 4.2 system file FDIC as development server file (FDIC), ignore this step.

If a Predict version as specified under Natural and Other Software AG Products in the current Natural Release Notes has not been installed or if you do not use a Predict Version 4.2 system file FDIC as development server file (FDIC), you have to copy the existing DDMs and processing rules to the development server file (FDIC), using the copy function of the Natural utility SYSMAIN.

Step 15: Extend your SMARTS startup job by NDV-specific definitions

(Job I200, Step 8415)

Described in the section Development Server Configuration.

VSE Sample:

Step 16: NDV Clients must be defined to Natural Security

If Natural Security (NSC) is installed:

- The NDV initial user ID (default ID is STARGATE) must be defined in Natural Security with a valid default library. Refer also to NDV configuration parameter INITIAL_USERID in the section Development Server Configuration. Alternatively, you can define the Natural profile parameter AUTO=OFF for NDV.
- Each client user ID must be defined in Natural Security.

If the NDV initial user ID is not defined, the NDV server initialization aborts with a NAT0856 error message.

If an NDV client is not defined, the map environment returns an NSC error.

If you logon to the server from an NDV client, make sure that the user who is defined in Natural Security has a default libary or a private library defined. Otherwise, error message NAT0815 will occur.

